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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,875	06/04/2001	Luis Francisco Vazquez Del Mercado	1691-8	3177

7590

05/18/2004

Harrison and Egbert  
7th Floor  
412 Main Street  
Houston, TX 77002

EXAMINER
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WILLS, MONIQUE M

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/872,875

Applicant(s)

MERCADO ET AL.

Examiner

Monique M Wills

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

DETAILED ACTION

*Response to Amendment*

This Office Action is responsive to the Amendment filed February 9, 2004. The rejection of claims 4-5 under 35 U.S.C. 103(a) as being unpatentable over Albert WO 97/30183 in view of Prengaman U.S. Pub. 2001/0009743, is maintained. A brief reiteration is recited below.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Albert WO 97/30183 in view of Prengaman U.S. Pub. 2001/0009743.

Albert teaches a lead acid positive battery grid, comprising the following: a lead alloy containing calcium, at a relative concentration ranging between 0.05 wt.% and 0.12 wt.%, tin at a relative concentration less than 3 wt.%, aluminum, at a relative concentration ranging between 0.002 wt% and 0.04 wt.%, and barium, at a relative concentration less than 0.02%. The cell contains negative grids. See abstract. The lead alloy preferably contains 0.0005 to 0.005% by weight of silver (pg. 21, lines 30-35; l'argent is silver as indicated by Table III on page 15).

Albert is silent to a silver content of 0.006 - 0.010%. The reference does not

expressly disclose the use of a plurality of positive and negative grids.

Prengaman teaches a lead alloy comprising tin, aluminum, barium, calcium and silver, wherein small amounts of silver are added to the grid to reduce the rate of corrosion but also significantly reduce the rate of penetration of the corrosion process into the grain boundaries (Par. 39). This enables high tin containing materials to resist growth of the battery grid and maintain integrity of the grid during service. The silver content ranges from 0.010% to 0.020% significantly decreasing the rate of grid growth and corrosion during service without making the battery grid too corrosion-resistant for good bonds between the grid and active material during curing (par. 39). Further, batteries with high silver content can be recycled without the need for expensive refining treatments. Up to 0.05% of silver may be replaced to enhance initial hardness leaving a *preferred silver content* of 0.005% to 0.015% (Par. 53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to increase the silver content of Albert up to 0.010% in order to: reduce the rate of corrosion, significantly reduce the rate of penetration of the corrosion process into the grain boundaries, decrease the rate of grid growth and corrosion during service without making the battery grid too corrosion-resistant for good bonds between the grid and active material during curing and eliminate need of refining treatments before recycling.

Regarding the employment of a plurality of negative and positive electrodes, It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a plurality of electrode plates , since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

*Response to Arguments*

Applicant contends that the unexpected synergistic benefits obtained by the lead alloy within the narrow range of silver and barium content, as in the present invention, is neither shown in the prior art nor made obvious to one of ordinary skill in the art at the time the invention was made. The benefits of these synergistic effects are illustrated on page 12, lines 11-19. The alloys tested were: Pb-Ca-Sn-Al-Ag alloy ( 0.045% Ca, 0.92% Sn, 0.0125%Ag, 0.0130%A1), Pb-Ca-Sn-Al-Ba alloy ( 0.051% Ca, 1.03%Sn, 0.019%Al, 0.013%Ba ) and Pb-Ca-Sn-Al-Ag-Ba alloy(0.052% Ca, 1.03% Sn, 0.0095%Ag, 0.017%A1, 0.016%Ba ), according to the present invention. The examiner disagrees. Applicant's invention was only compared to alloys having only barium OR silver. There are no comparative results to synergistic characteristics of other barium-silver included alloys. Therefore, it is unclear as to whether the specific concentration of barium and silver produce synergistic benefits, or the mere combination of barium and silver create unexpected synergistic results. Stated differently, Applicant has not shown that barium and silver in the instant weight percents give rise to unexpected synergistic results. Therefore, Applicant has failed to compare the subject invention to the closest prior art.

Assuming, arguendo, that Applicant has effectively demonstrated unexpected synergistic results, the synergistic characteristic may also be possessed by Albert. Albert teaches a lead alloy with a composition range of less than 0.02 wt % barium, embracing the instant barium concentration of 0.010 wt% to 0.017 wt%. The silver concentration is 0.0005

to 0.005 wt% silver, compared to 0.006 to 0.010 wt % silver of the instant claims. A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ773 (Fed. Cir. 1985). In the instant case, Albert teaches an upper limit of 0.005 wt% silver which is close enough to the instant lower limit of 0.006 wt% silver, that one skilled in the art would expect them to have the same synergistic benefits.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

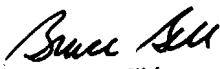
If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

5/13/04

  
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